Name: _____
A2T Review Q3T3

This review is not comprehensive. Be sure to go over your notes, homework, and old exams as well.

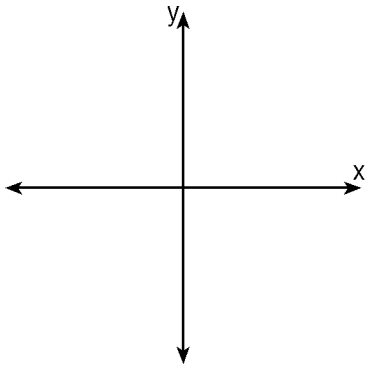
1) The terminal side of an angle in standard position lies in quadrant *III* of the coordinate grid. This angle could be

A) -255° B) -240° C) -110° D) 120°

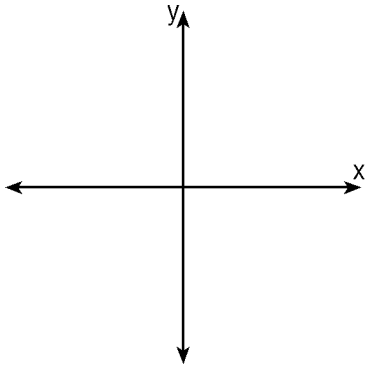
2) The terminal side of an angle in standard position lies in quadrant *I* of the coordinate grid. This angle could be

A) 455° B) -550° C) 550° D) -645°

3) Sketch 300° in standard position on the axes below.



4) Sketch 450° in standard position on the axes below.



5) Which of the following angles is coterminal with 915°?

A) 195° B) 105° C) 75° D) 15°

6) Which of the following angles is coterminal with -610°?

A) 70° B) 20° C) 250° D) 110°

7) Determine two coterminal angles for the given angle:

-111°

8) Are 90° and -270° coterminal angles?

9) What is 108° converted to radians in terms of π?

A) $\frac{3\pi}{5}$ B) $\frac{6\pi}{5}$ C) $\frac{5\pi}{6}$ D) $\frac{2\pi}{5}$

10) Convert 160° to radian measure and express the answer in terms of π.

11) What is $-\frac{11\pi}{6}$ radians expressed in degrees?

A) -30° B) -330° C) 30° D) -360°

12) What is -2.5 radians expressed to the nearest tenth of a degree?

A) 143.2° B) 36.8° C) -36.8° D) -143.2°

13) Convert $\frac{11\pi}{18}$ radians to degrees.

14) Convert the given radian measure to degrees. [*Answer in terms of π where appropriate.*]

1.5 radians

15) In a circle, an arc 60 centimeters long subtends an angle of 5 radians. What is the length of the radius of the circle in centimeters?

A) 300 cm B) 12 cm C) 7.6 cm D) 24 cm

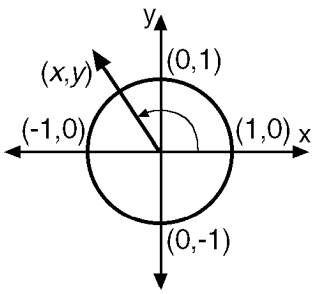
16) In a circle whose radius is 8, the length of an arc of the circle is 2π. What is the number of radians in the central angle subtended by the arc?

A) $\frac{\pi}{2}$ B) 16π C) $\frac{\pi}{4}$ D) 4π

17) What is the length of the arc that subtends a central angle of 82° in a circle of radius 9 centimeters? [*Round answer to 2 decimal places.*]

18) The pendulum of a clock swings through an angle of 2.5 radians as its tip travels through an arc of 50 centimeters. Find the length of the pendulum, in centimeters. [*Show all work.*]

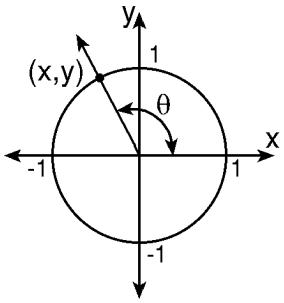
19) In the accompanying diagram of a unit circle, the ordered pair (*x*,*y*) represents the point where the terminal side of θ intersects the unit circle.



If m∠θ = 120°, what is the value of *x* in simplest form?

A) $-\frac{1}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $\frac{1}{2}$ D) $-\frac{\sqrt{3}}{2}$

20) In the accompanying diagram of a unit circle, the ordered pair (*x*,*y*) represents the point where the terminal side of θ intersects the unit circle.



If $\theta = \frac{3\pi}{4}$, what is the value of *x*?

A) 1 B) $\frac{\sqrt{3}}{2}$ C) $-\frac{1}{2}$ D) $-\frac{\sqrt{2}}{2}$

21) Find *all* values of θ that satisfy the condition cos θ = 0 where 0° ≤ θ < 360°.

22) If $\cos x = -\frac{\sqrt{2}}{2}$, in which quadrants could $\angle x$ terminate?

A) *I* and *III*, only
B) *II* and *III*, only
C) *II* and *IV*, only
D) *I* and *IV*, only

23) Which of the following is the reference angle of 280°?

A) 80° B) 100° C) -10° D) -80°

24) The value of sin (-210°) is

A) $-\frac{1}{2}$ B) $\frac{1}{2}$ C) $-\frac{\sqrt{3}}{2}$ D) $\frac{\sqrt{3}}{2}$

Questions 25 and 26 refer to the following:

Find the reference angle for the given angle in standard position:

25) -111°

26) -143°

27) If $\sin A > 0$ and $\cos A < 0$, in which quadrant does angle *A* terminate?

A) *I* B) *II* C) *III* D) *IV*

28) If $\sin A < 0$ and $\cos A < 0$, in which quadrant does $\angle A$ terminate?

A) *I* B) *II* C) *III* D) *IV*

29) What is the solution set to $3x^2 + 21x = 24$?

A) {3} B) {-4, 2} C) {-8, 1} D) {-1, 8}

30) What is the next term in the sequence -10, -17, -24, -31, ...?

A) -38 B) 15 C) -20 D) -45

31) What is the value of $\sum_{n=1}^{5} (-2n + 100)$?

A) 130 B) 530 C) 70 D) 470

32) What is the solution set for $|2x - 3| \leq 1$?

A) $\{x \mid x \geq 2\}$
B) $\{x \mid 1 \leq x \leq 2\}$
C) $\{x \mid x \leq 1\}$
D) $\{x \mid x \leq 1 \text{ or } x \geq 2\}$

33) What is $\frac{3}{2+3i}$ expressed with a rational denominator?

A) $\frac{-6-9i}{13}$ B) $\frac{6+9i}{13}$ C) $\frac{6-9i}{13}$ D) $\frac{-6+9i}{13}$

34) If $f(x) = 3x - 1$ and $g(x) = 4x + 3$, what does $g(f(x))$ equal?

A) $12x^2 + 13x - 3$
B) $12x^2 + 5x - 3$
C) $12x - 1$
D) $12x + 8$

35) What is an equation of a circle having center (4,-3) and radius 5?

A) $x^2 + y^2 - 8x + 6y = 0$
B) $x^2 + y^2 - 8x + 6y - 25 = 0$
C) $x^2 + y^2 + 8x - 6y = 0$
D) $x^2 + y^2 - 4x + 3y + 9 = 0$